

# CLAIMS

1. A radio-control antenna support arm for lifting machinery, in particular for a tower crane, wherein it is able to be orientated about a vertical pivoting axis (11) on the lifting machinery (2) such that it can occupy at least two separate angular positions (A, B, C, D), this support arm (5) comprising a head (10), radially offset with respect to the said pivoting axis (11), upon which is mounted at least one radio-control antenna (6).

2. The radio-control antenna support arm as claimed in claim 1, wherein it comprises a base part (7) mounted such that it rotates on a fixed pivot (8), defining the said vertical pivoting axis (11), a curved or bent tube (9) extending the base part (7) and, at the end of the tube (9), a head (10) in the form of a mounting plate, upon which the radio-control antenna (6) is mounted, a transmission cable (15) which ends at this antenna (6) passing through the inside of the tube (9), and means (16 to 24) being provided for positioning the tube (9) in at least two predefined separate angular positions (A, B, C, D).

3. The radio-control antenna support arm as claimed in claim 1 or 2, wherein the angular positions, in which the support arm (5) or its tube (9) can be immobilized, comprise a position (A) folded back against the lifting machinery, such as a crane (2), and at least one position (B, C, D) separated from the metal structure of that lifting machinery (2).

4. The radio-control antenna support arm as claimed in claim 3, wherein, in the case of a folding tower crane, the support arm (5) is mounted such that it can be orientated on a lower chassis or frame (2) of the crane, and wherein the predefined angular positions of this support arm (5) comprise:

- a first position (A), folded back against the lower frame or chassis (2) of the crane, this position (A) being usable for the working of the crane and also for its transport in the folded state;

5       - a second position (B), separated from the lower frame or chassis (2) of the crane, this position (B) being usable for raising and lowering of the crane; and

10       - at least a third position (C), separated from the lower frame or chassis (2) of the crane, this position (C) bringing the antenna (6) towards the front of the lower frame or chassis (2), or in front of the base of the crane's mast (4).

15       5.       The radio-control antenna support arm as claimed in claim 4, wherein the angular distance between the first position (A) of the support arm (5) and its second position (B) is about 60° and the angular distance between the second position (B) of the support arm (5) and its third position (C) and, if applicable, between the following positions (C, D), is also about 60°, the support arm (5) thus having, for example, an angular positional range of the order to 120°.

25       6.       The radio-control antenna support arm as claimed in all of claims 2 to 4, wherein the means for positioning the support arm (5) in its first position (A), folded back against the lower frame or chassis (2) of the crane, comprise an upper positioning pin (16) held on a plate (17) fixed to the said frame or chassis (2), this pin (16) cooperating with another plate (18), provided with a hole (19), attached to the support arm's (5) head (10) in the form of a mounting plate.

35       7.       The radio-control antenna support arm as claimed in all of claims 2 to 4, wherein the means for positioning of the support arm (5) in its other two or more positions (B, C, D), separated from the lower

frame or chassis (2) of the crane, comprise, in the base part (7) and at the fixed pivot (8) of the support arm (5), a lower positioning pin (24) attached to the base part (7, 20) of the support arm (5) and provided  
5 for cooperating with one or other of two or more holes (22, 23) drilled in a plate (21) integral with a part (12) of the fixed pivot (8).

8. The radio-control antenna support arm as  
10 claimed in claim 7, wherein the fixed pivot (8), used for the orientation of the support arm (5), is produced in the form of a sheet, folded into a U shape, whose flanges (12, 13) are positioned horizontally, one above the other, in such a way as to form an upper bearing  
15 and a lower bearing, traversed by the base part (7) of the support arm (5), the said plate (21) drilled with two or more holes (22, 23) being integral with the upper flange (12) of the folded sheet which forms the upper bearing.

20 9. The radio-control antenna support arm as claimed in claim 8, wherein the two flanges (12, 13) of the sheet folded in a U shape are connected by a vertical section (14) which is fixed, and in particular  
25 welded, against the lower frame or chassis (2) of the crane.

10. The radio-control antenna support arm as claimed in any one of claims 6 to 9, wherein the base  
30 part (7) of the support arm (5) is mounted such that it slides along a vertical axis (11) in the fixed pivot (8), which makes it possible to raise the support arm (5) to allow its movement from one position to another position.

35 11. The radio-control antenna support arm as claimed in both of claims 6 and 10, wherein the raising of the support arm (5) is provided for releasing the plate (18) from the upper positioning pin (16) and for

moving around the obstacle formed by the upper edge of the lower frame or chassis (2) of the crane during its movement from the first position (A) to the second position (B).

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12. The radio-control antenna support arm as claimed in claim 10 or 11, wherein a stop device, such as a safety pin (25) is provided on the base part (7) of the support arm (5) to limit the raising of this support arm (5) and to prevent it from coming out of its pivot (8), particularly during a change of position of the support arm (5).

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